



FROM THE
DIRECTOR'S
OFFICE

Wayne Shotts

Lab continues to answer
the call for security

On this first anniversary of the September 11 attacks, we are all reflecting on the effect that day has had on our country and our lives. We have been affected in ways large and small. Some among us lost loved ones or have friends who did. Many of us have experienced the long security check lines and armed guards that are now part and parcel of air travel. And dozens of Laboratory employees were directly involved in the nation's response to the terrorist attacks.

Within hours of the September 11 attacks, phone calls streamed into the Laboratory from across the federal government with requests for assessments and analyses, for experts and equipment. In addition, Lab people came forward with novel ideas and offers to help, both in the immediate aftermath and in the longer-term war on terrorism.

More than 60 Laboratory employees in a dozen different groups were deployed to New York City, Florida, Washington D.C., and other locations. People on and off site worked around the clock for weeks. The breadth and depth of the Laboratory's response to September 11 is truly a testament to the dedication of its employees.

Almost immediately after the two planes crashed into the World Trade Center towers, the Nuclear Emergency Support Team (NEST) was put on alert, and within days Z Division analysts went back to Washington D.C. to support the CIA's

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Lab pays tribute to employees

A special tribute to honor the one-year anniversary of September 11, and the events that followed, begins this morning at 8:30 a.m.

A Labwide moment of silence has been called for 8:46 a.m., to coincide with the statewide moment of silence as called for by Gov. Gray Davis.

This morning's tribute will honor employees who were asked to assist in rescue, counterterrorism and safeguarding efforts in New York, Washington, D.C. and other areas around the world.

Director Michael Anastasio will host the ceremonies, which will begin promptly at 8:30 a.m. in the Bldg. 123 auditorium.



NEWSLINE FILE PHOTO

On the one-year anniversary of September 11, the flag installed at the Superblock following the attacks will be officially retired by a Protective Force honor guard this morning.

Anyone arriving after that may be asked to wait outside the door so as not to interrupt the various ceremonies that will take place.

The ceremony, which will last approximately one hour, is by invitation only, in order to honor the more than 300 employees who were called to serve following the September 11 attacks. All employees are

invited to watch the ceremony live on Lab TV Channel 2; it will be rebroadcast at noon.

The ceremony begins with the entrance

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MIR team learns from World Trade Center

By Don Johnston
NEWSLINE STAFF WRITER

A Laboratory team armed with radar search instruments first trekked out into the smoke, dust and debris of Ground Zero four days after the September 11 attack on the twin towers of the World Trade Center.

One year later, the memories are still vivid.

"It was a madhouse outside the site," recalled Tom Rosenbury, leader of the Lab's micropower impulse radar (MIR) group. "There were tens of thousands of people trying to do what they could to help."



PHOTO COURTESY OF TOM ROSENBURY

Members of the Lab's micropower impulse radar team were called to Ground Zero to assist in rescue and recovery efforts. Standing from left to right: Dr. Pete Estacio, Doug Poland, Tom Rosenbury, Mark Vigers, Mike Newman and John Chang. Inset: Dann Haynes, Pat Welsh, Greg Dallum, Garth Pratt and JoAn Levy.

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REMEMBERING SEPTEMBER 11



Trapped on travel:

By Elizabeth Campos Rajs
NEWSLINE STAFF WRITER

September 11 is one of those life-changing events that people, no matter where they were, will never forget. For many, it is comparable to the day John F. Kennedy was killed: They can tell you exactly where they were when the first heard the news and how they reacted.

But for Americans who were traveling overseas, the event had a surreal quality. They experienced the event, but because of their distance, there was a bit of emotional detachment.

One year ago today, 336 employees were away from the Lab on business travel. Of those, 266 were traveling domestically and 58 were on international travel, including many of the Lab's top management. Director Michael Anastasio was in Italy on vacation, then-Director Bruce Tarter was in Japan at an international conference and Lab Executive Officer Ron Cochran was in Russia.

Anastasio and his wife arrived in Italy Sept. 10 for a long-awaited and much anticipated vacation. They had completed a day of sightseeing and an enjoyable dinner, when Anastasio received a phone call at the hotel where they were staying.

Anastasio, who does not provide phone numbers, hotel names or even specific destinations for his staff when he leaves on vacation, was initially perturbed at the interruption. Within moments, his emotions ranged from concern about why his assistant, Carol Boyd, was calling, incredulity that she was able to find him, and finally, stunned disbelief at the news she was delivering.

"We hadn't seen television at all. We immediately turned it on and they were doing a replay," Anastasio said. "It was very bizarre. I wanted to do something, but there was nothing I could do from there."

He and his wife had planned to vacation in Italy for 10 days. Since they couldn't get a flight out anyway, they decided to continue with their itinerary.

"Traveling around Italy, it was heart-warming to see people's reactions. In Florence, they had signs up in shop windows expressing sympathy. There was a sense of connectivity and a real outpouring of emotion," Anastasio recalled. "We were in Pisa visiting the tower when they, and many others across Europe, stopped everything for three minutes of silence at noon. That was very moving."

When the Anastasios returned to the United States more than a week later, they realized the force of emotions most Americans had experienced on that fateful day.

"When I got home, all of my friends at home and at work wanted to talk about the day. I realized I had a very different emotional experience than they did," Anastasio said. "I felt less personally involved and more detached emotionally than everyone here. I feel like I missed a big part of the experience that everyone here felt."

Tarter and about 25 Lab employees, including NIF Program Manager Ed Moses, were in Japan at an international conference on inertial fusion sciences. They completed the first full day of the conference and were in their hotel rooms when the news broke.

"I had just gone to sleep when the phone rang. It was (former AD) Mike Campbell, who was one of the principal organizers of the conference, and he was screaming at me, 'We're being attacked. We're being attacked,' " Tarter said.

It took a few minutes for the enormity of what Campbell was yelling into the phone to sink in and for Tarter to find CNN on the hotel TV.

"I sat for the next couple of hours watching TV. Our real decision was whether to continue the conference," Tarter said.

In the morning, Tarter, Campbell and the Japanese and French organizers discussed the situation and decided to continue the conference.

"Everyone was in a strange state," Tarter said. "We were emotionally connected, but it hadn't consumed us like the people here. At every break, all the Americans would watch TV, so we only got

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"It was very bizarre. I wanted to do something, but there was nothing I could do from there."

—Michael Anastasio



Ron Cochran

Special thanks for those who organized tribute

Special thanks go to the organizing committee behind the Laboratory's September 11 tribute. They include: Randy Bradley, Lab Fire Department; Steve Cochran, NAI; Kathy Cromwell and Roger Cuning, Director's Office; Susan Houghton, Public Affairs; Gloria Kwei, Administration & Human Resources; Monya Lane, Engineering; Cynthia Rose,

LLESA; Lynda Seaver, Public Affairs; John Smalls, Protective Force; and Kirsten Sprott, Public Affairs. Thanks also go to those participants during the tribute, including the members of the specially assembled choir, the Protective Force color guard, and guest speakers Tom Rosenbury and Michael Carter.

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The attack from different perspectives

TRAVEL

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an hour or two a day. It was like being on the moon.”

Tarter attended the conference in the morning and would take the local train to interesting destinations around Kyoto in the afternoon.

“I had three different worlds going on for a week. It was surreal. We would gather for breakfast every morning and compare notes. Then we would go to the conference and it would feel like a conference. The third thing I would do was go into Kyoto a lot and it was like nothing had happened,” Tarter recalled.

People who wanted to leave, couldn’t. The first plane that finally left Osaka was on Saturday and Tarter took his scheduled flight on Sunday.

“It’s like the Kennedy assassination where people remember where they were when they heard the news. I will never forget Mike’s screaming phone call,” Tarter said.

Cochran and his wife, Ann Heywood, were in England attending the funeral for her brother when they received word of the crash.

“We turned on CNN and caught events just before the crash into the second tower,” Cochran said.

They were scheduled to go to Moscow, and after checking with the Lab to discover they couldn’t return to the United States anyway, they continued on to Russia for the planned meeting.

“It was an emotional roller coaster, coming right after the funeral,” Cochran said. “The Russians were very distressed, sympathetic and supportive.”

Heywood added, “Moscow was highly charged. Strangers heard us speaking English and hugged us on the streets. We went to our meeting, completed negotiations and signed our joint venture. I told the meeting that we could not let terrorists disrupt business and our way of life.”

The Lab contingent, which included Jim Trebes, was in Moscow when President Putin declared a moment of silence at 11 a.m. to honor the U.S. dead. “The whole thing was surreal,” Heywood said.

“Everything in Moscow stopped,” Cochran recalled. “The Russians sent tons of flowers to the U.S. Embassy and they lined up around the block to sign a book expressing sympathy. They were exceptionally emotional.”

Heywood said it also was very emotional when they were finally able to return home.

“My daughter from New York had been working until late August in the World Trade

Center and lost a whole floor of 200 colleagues, including an eight-month pregnant girlfriend. She spent this past year going to memorial services. It seemed that my brother’s funeral was just the beginning for us,” Heywood said.

“We were 12 people in a daze, driving in stunned silence to a very nice restaurant where we had reservations for dinner. As we walked in with solemn stares, a French woman said gravely ‘I’m so sorry for your country’,” Lane said. “That turned out to be a nearly unanimous and strongly supportive reaction from the French people everywhere we went — including the cab drivers.”

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“I had three different worlds going on for a week. It was surreal.

—C. Bruce Tarter

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Center and lost a whole floor of 200 colleagues, including an eight-month pregnant girlfriend. She spent this past year going to memorial services. It seemed that my brother’s funeral was just the beginning for us,” Heywood said.

Monya Lane, Engineering operations manager, and Bob Bryant, Electronics Engineering, had just finished a tour in the Burgundy region of France. Lane had been trying to call into the Lab, but couldn’t get through. As her group climbed into the tour van, the guide turned on the radio for the first time and everyone sat in stunned disbelief, Lane said.

“The French have experienced terrorism where they live and so were outraged and were our allies right away. This support was very welcome since it felt so strange to be far away from home, and without access to much television in the small rural town where we were staying,” she said.

She and her traveling companions “devoured” every newspaper account they could get their hands on and were finally able to travel home on Sept. 16.

“I thought maybe I’d be nervous flying, but the positive sense of heading home overshadowed that tendency,” Lane said.

TRIBUTE

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of a special Lab color guard and bagpipe performance. Anastasio will then introduce members of the Lab’s Protective Force, who will put together a special “Table of Remembrance” ceremony to honor firefighters, police officers and other rescue workers who were killed fol-

lowing the collapse of the World Trade Center towers.

Also included in the ceremony will be a 12-minute slide show recalling the attacks and the rescue and recovery efforts; recollections from Lab employees who were deployed to New York, Washington and other areas; and the unveiling of a special quilt to commemorate Sept. 11.

During the ceremony, Anastasio will take time to honor various groups of

employees, including those who were deployed to assist in homeland security and counterterrorism work; support teams at the Lab; protective force officers and other emergency responders charged with safeguarding the Lab; and employees who were called to military service to fight the war on terrorism.

The ceremony will conclude with performances by a specially assembled choir made from members of the Lab’s various employee groups.



REMEMBERING SEPTEMBER 11

September 11 memorial quilts offer source of comfort

They serve as a reminder of what has happened, of patriotism that endures and, ultimately, a source of comfort for anyone feeling a sense of loss.

A collection of quilts sent as gifts to the Pentagon following the attacks of September 11 will be making a stop at the Laboratory, beginning this morning with the unveiling of one commemorative quilt during the Lab's special tribute. A bigger show comes on Oct. 1, when a collection of more than 35 quilts will be on display at the LLESA pool area.

"This will be a phenomenal show," said Penny Pennington of the LLESA Piecemakers, the Lab's needle arts guild. It was Pennington and other Piecemakers members, including club president Floy Worden and Diane McGovern, who worked with Cynthia Rose of LLESA to bring the collection, currently touring the United States, to the Lab.

Following the September 11 attacks, the Pentagon began receiving dozens of quilts from the United States, Canada and other parts of the world. June Forte of the Pentagon's Public Affairs Office decided to make them part of a national touring show.

Pennington, a longtime quilter, heard about the show while attending a lecture of the Diablo Valley Quilters. She decided to work with the Piecemakers to bring the quilts to the Lab.

The quilt featured today is a 16-by-26-foot

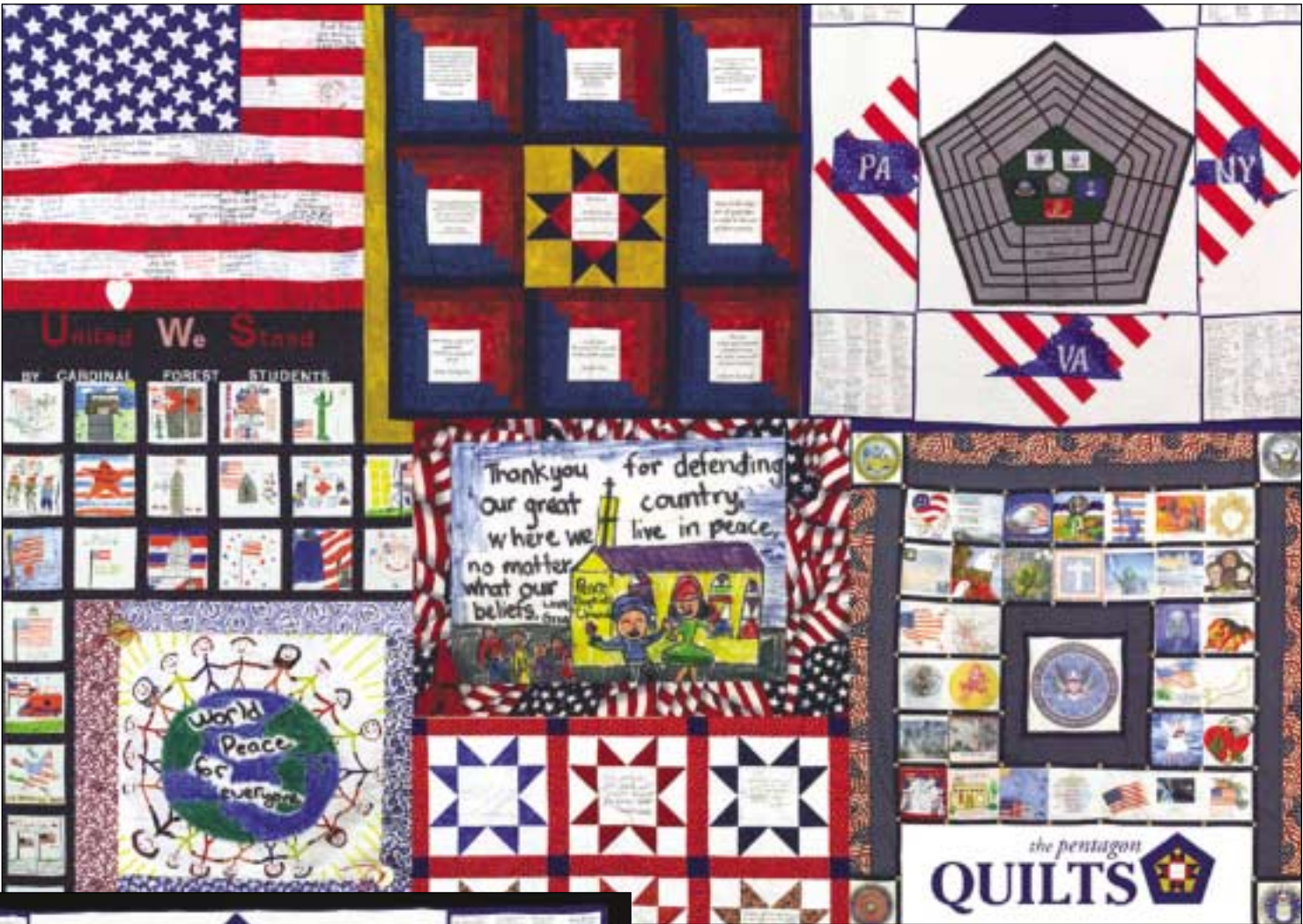
American flag, made from more than 7,000 felt handprints of Livermore schoolchildren. The quilt is being displayed as part of the Lab's special tribute to September 11. It will be taken down after Wednesday and return for the Oct. 1 show.

Between 35 and 50 quilts will be on display in the LLESA pool area during the Oct. 1 event, which will also feature a guest speaker and a raffle of two "Uncle Sam" quilts, made by the Piecemakers. The Piecemakers will also present a quilt to the Pentagon, on behalf of the Lab, Johnson Controls, DOE and NNSA.

Throughout the day, the Piecemakers will also distribute a special red, white and blue stars and stripes pattern, titled "American Tribute."

The quilts on display Oct. 1 will depict everything from the actual attacks on the Pentagon and World Trade Centers, to memorials of those killed in the attacks, to recovery and rescue efforts, to messages of sympathy and support. Many are in red, white and blue.

"These quilts remind us that September 11 was an attack on America. It's not just the World Trade Center, it's not just the Pentagon, it's not just the crash in Pennsylvania. All of America is



PHOTOS COURTESY OF LLESA

Following the attacks of September 11, quilts recalling the events were sent to the Pentagon from around the world. The quilts are part of a traveling show that will make a stop at the Lab on Oct. 1. One quilt, by Livermore elementary schoolchildren, features 7,000 red, white and blue hands arranged into a 16-by-26 foot flag. The quilt will be on display as part of today's September 11 tribute.

hurting."

Pennington believes that the quilts show how some people use needlecraft to sort through troubling times.

"Many hands have been involved in this project," she said. "These quilts are a tribute to all who were affected. They are a way to recognize and remember."



REMEMBERING SEPTEMBER 11



Nation looks to Lab forensics, biodetection

Agencies see Lab as one of few places performing chem, bio, nuclear detection

The anthrax attacks that followed in the wake of September 11 quickly pulled Laboratory expertise in forensic science and biodetection into the effort to thwart the threat of bioterrorism.

"We started getting a lot of phone calls," said Armando Alcaraz of the Forensic Science Center. "People all over, including the Lab, were very concerned about anthrax in the mail. We didn't know if we were an immediate target."

From the earliest anthrax incidents in early October, the Forensic Science Center team was on call 24 hours a day, seven days a week as a resource to agencies trying to cope with the fear of anthrax and a flood of requests to test suspicious white powders.

With heightened security and vigilance in the Lab mailroom, the Forensic Science Center analyzed many suspicious samples.

"We've always handled samples with great care. But 90 percent of the time in the past it was a hoax or the work of someone who didn't really know what they were doing," Alcaraz said. "But I know this was not the work of an amateur and that really worried me. This might be a very smart person trying to hurt a lot of people."

A white powder found on a Lab elevator mat led to closure of the lift until the forensic scientists confirmed it was not a toxic substance, Alcaraz recalled. "We worried that these incidents would start everywhere."

But the Forensic Science Center was ready and able to provide support to those requesting it. "We've had a lot of experience analyzing difficult samples and that helped us."

Peter Nunes, also a forensic scientist, helped provide air sampling devices to be deployed at Ground Zero to supplement efforts by the EPA to determine the health risks to search and rescue workers.

For Nunes, the events of September 11 and the weeks that followed came as a shock, but not entirely as a surprise. "We've been working in counterterrorism for years. We were certain there would be a terrorist attack. It was not a question of 'if' but of 'when.'"

Since September 11, "there's more interest in what we do and col-



Laboratory tools such as the battery-operated air sampler above were used to determine health risks to search and rescue workers following the attacks of the September 11.

laborating with us," he said. "There's also more interest from commercial companies."

Nunes hopes the attention will help get "the good work we've been doing for years into the hands of first responders."

Nunes, Alcaraz and the Forensic Science Center team served as a resource to U.S. Rep. Ellen Tauscher and U.S. Sen. Dianne Feinstein following the decontamination of the Hart Building in Washington D.C. "Sen. Feinstein contacted us and wanted to know why her staff was suffering from headaches and burning eyes," said Brian Andresen, director of the Forensic Science Center (FSC) at the time.

Forensic scientists were able to help resolve eye irritation and headaches that ended up not being caused by anthrax exposure.

The weeks following September 11 were tense, Andresen remembers, because nobody knew what would be sent to the Lab for analysis next. "When you don't know what it is, the sense of danger is amplified," he said. "We were doing pressure work and a lot of it."

Agencies turned to LLNL because "we're one of the few labs that can do bio, chemical and nuclear."

In addition to responding to emergencies, the FSC continues to advance its analysis skills, build cutting-edge analytical instrumentation, and foster partnerships with first responders to bring better field analysis equipment to the scene of a terrorist incident.

The FSC continues to be the West Coast-designated chemical weapons analysis support laboratory for treaty monitoring. The FSC's field portable gas chromatography-mass spectrometry (GC-MS) instrument and solid phase micro extraction (SPME) field kits have been commercialized, are currently the best tools for first responders, and are being incorporated into many emergency response organization across the United States.

Explosive analysis is also a ready capability at the FSC, according to Andresen. "The FSC continues to be a leader in its rapid deployment capabilities to determine 'where is the chemical threat', 'what is it', and 'is it dangerous.'"

All the events since September 11 have made the threat of terrorist attack more real to people, say Lab researchers.

A year later, Lab scientists who responded to September 11 and the anthrax threat say they've learned a lot and made progress toward making the nation more secure. But they agree there's still a ways to go.



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MIR

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However, search and rescue activities inside the Ground Zero perimeter were carefully managed and coordinated by the New York City Fire Department. Just to get to the site, the Lab team had to undergo extensive questioning at three security checkpoints. “A ‘no’ at any checkpoint and you were out,” Rosenbury said. “They were screening to get the people who could contribute the most to the search effort out to Ground Zero.

“The security was very tight,” he said, adding priority was given to the highly trained and experienced search and rescue teams that came in from around the country. “As far as I know, there weren’t many technology people at Ground Zero.”

The nine-member Lab team deployed by DOE brought micro-power impulse radar (MIR) devices, able to detect breathing through as much as 60 feet of material, to the search for survivors. After the first day, the team was assigned to one of the FEMA tents on Church Street next to the collapsed towers.

Everyone at Ground Zero worked under the direction of the New York Fire Department battalion commanders, who sought to match search and rescue capabilities to those areas where they would be most effective.

“It was one of the most sad and solemn things anyone has ever seen,” Rosenbury recalled of his first view of Ground Zero. “The place was unbelievably huge. I don’t think we were even able to cover 1 percent in the five days we were there.”

The Lab team was escorted at all times by a New York Fire Department firefighter through designated search areas. “These guys were really good and extremely helpful,” Rosenbury said.

“We went out with great optimism. I had hope in my heart that we would find someone,” he said. “We were eager to contribute.”

But while the Lab team was able to locate the remains of victims, the radar search found no survivors.

The Lab team used several different MIR devices in the search effort, including a compact radar designed to be placed on a gun barrel for detecting activity behind doors and walls. This device was put on a stick for searching narrow, otherwise inaccessible passages.

The site was fraught with danger as the immense piles of debris were constantly shifting beneath the feet of rescuers, and debris continued to fall from portions of the buildings that remained standing. “You could never be sure of what was beneath your feet.

“There were holes in the pile of debris where you could look down six stories,” Rosenbury said, noting that search teams were careful to follow footprints in the dust indicating well-trodden pathways.

“But once we were on the site, we were focused on searching. It was an inherently dangerous situation, though I personally never felt in any particular danger,” he said. “We wanted to work as much as possible. When it was time to go and sleep, it was like ripping your heart out.”

DOE relieved the team of duty after it became clear no additional survivors would



Mike Newman (top) uses an MIR on an extender to search through rubble at Ground Zero. The tent on Church Street (right) served as the Laboratory team's base of operations for the five days they were in New York. Doug Poland uses the specially adapted MIR to search inside the rubble of the World Trade Center.



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MIR

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be found.

Rosenbury was at the New River Naval Air Station in North Carolina on Sept. 12 when he received a call from Air Force General Lyle, who was familiar with the MIR technology. The team was summoned by Energy Secretary Spencer Abraham the same day and flown to New York aboard a federal plane specially chartered by the Energy Secretary as commercial flights remained grounded.

The Air Force flew Rosenbury to New York where he found himself preparing for the search effort at Ground Zero with only the business suit he had brought to North Carolina. “My colleagues did bring me a pair of steel-toed boots.”

The team was gratified at how well the radar devices they brought worked — “we got no false positives” and brought back valuable lessons and ideas for new design features from New York.

“We learned a lot about how search and rescue workers operate and the kind of instrument they need. Ultimately we want to get an instrument in the hands of rescue workers,” Rosenbury said, adding the technology would also be useful for post-earthquake searches as well as other natural disasters.

“We were just a team of technology guys. We weren’t doing any heavy lifting,” Rosenbury said. “The real heroes were the firefighters and police officers who answered the call on September 11.”

Members of the Lab team are: John Chang, Gregory Dallum, Dr. Pete Estacio, Daniel Haynes, Michael Newman, Douglas Poland, Garth Pratt, Mark Vigars and JoAn Levy.



Top: Greg Dallum (left) and Pat Welsh search the rubble at Ground Zero. An MIR device is recharged (inset). Greg Dallum (middle) checks readings on the MIR. John Chang (bottom) using one of the MIR devices inside the rubble in the search for survivors. The Lab team used several different kinds of MIR devices.



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Technical Experts Cell and other elements of the intelligence community.

The Laboratory's Threat Assessment Center was up and running as soon as word of the attacks was received — around the clock initially and then settling into an 18-hour-a-day, seven-day-a-week operation. In the 10 weeks following September 11, the Threat Assessment Center provided 63 assessments — more than their entire case-load in the previous year.

Numerous other calls went out for specialized equipment to assist in search and recovery efforts at the World Trade Center and to help protect the nation from new attacks. In many cases, prototype instruments were taken out of laboratories and thrust into the field, where they performed outstandingly well.

On Sept. 12, the office of the Secretary of Energy and a four-star Air Force general phoned the Lab to ask whether micropower impulse radar (MIR) could be used as a breathing/heartbeat sensor to search for survivors in the World Trade Center rubble pile. The next day, a team of 10 employees — from Engineering, Hazards Control, and Nonproliferation, Arms Control and International Security (NAI) — departed from Stockton in Energy Secretary Spencer Abraham's government aircraft (all commercial planes were grounded) for New York City's LaGuardia Airport.

The radar technology went into operation early Saturday morning, Sept. 15, with Lab employees working 14- to 16-hour days under a New York City Fire Department battalion commander. (No survivors were found by any means after Sept. 12.)

A dozen Laboratory employees helped monitor the air around the World Trade Center for hazardous emissions. When the call for assistance was received, the instrument was in pieces in the laboratory. In four days, the instrument was reassembled, checked out, and flown to the East Coast.

The team was asked to search for asbestos contamination and for toxic gases that could affect recovery workers on the rubble pile. In particular, the World Trade Center's north tower contained the world's largest air conditioning system, with an enormous supply of freon in its refrigerant tanks, and there was concern that leaking freon could burn to produce chlorofluorocarbons, such as the toxic gas phosgene.

Although rescue workers had gone into the north tower basement, they had been unable to determine if the refrigerant tanks were leaking. The Livermore team found that the tanks were leaking but not producing toxic gases.

On Oct. 4, the nation was stunned with the anthrax-in-the-mail attack at the Florida headquarters of the American Media Company. Shortly thereafter, seven Lab employees were deployed to the Sunshine State to help screen U.S. mail. They used their prototype Bioaerosol Mass Spectrometer, which can analyze biological samples straight from an aerosol without a sample preparation step, to screen for mail contaminated with bacillus spores. (One

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The days, weeks, and months following September 11 have reaffirmed not only the need for the Laboratory's work on counterterrorism and national security but also the outstanding quality of our technologies and our people.

—Wayne Shotts

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species of bacillus, B. anthracis, causes anthrax.)

In the wake of the anthrax attacks, calls went out for any and all kinds of biodetectors, including the Laboratory's Handheld Advanced Nucleic Acid Analyzer (HANAA). This instrument is the first truly portable, battery-operated, handheld DNA analyzer. HANAA technology was in the process of being licensed to a commercial manufacturer, with first commercial units planned for spring 2002. In order to help the company meet an order from the U.S. military for 50 HANAAs, the Laboratory's Microtechnology Center launched a crash program to fabricate 300 thermal cyclers (silicon chambers used for rapidly heating and cooling samples) — the key component of miniaturized PCR instruments.

The calls alerting the Biological Aerosol Sentry and Information System (BASIS) team members that they would be leaving California came at 1 a.m. on Saturday, Oct. 6. Within eight hours, BASIS personnel and tons of equipment were loaded on a C-130 cargo plane and taking off from Travis Air Force Base.

Less than a day after their arrival, air samplers and communications were set up, and the portable laboratory was ready to accept samples. A joint project of Livermore and Los Alamos, BASIS had been scheduled for use in February 2002 at the Winter Olympics. It was pushed into operation four months early and performed exactly as designed.

In mid-October, one Laboratory associate director received an e-mail from a BASIS team member that said: “If this isn't terribly coherent, it's because I've been up 36 hours and it's 3 a.m. This work offers a really great incentive to write computer

software so that on-site support isn't needed.”

Today, a year later, Laboratory equipment and personnel continue to be deployed. Prototype technologies that were “tested” in the field after September 11 are being refined based on their real-world experience. The development of other technologies has been accelerated and new efforts begun. Laboratory scientists have provided technical advice to the Office of Homeland Security and are assisting the National Nuclear Security Administration with the transition to the Department of Homeland Security.

The days, weeks and months following September 11 have reaffirmed not only the need for the Laboratory's work on counterterrorism and national security but also the outstanding quality of our technologies and our people.

The projects noted above are highlights of the Laboratory's extensive post-September 11 response. Many other projects, staffed by many more people, have rallied to the cause and are making important contributions to homeland security. Our work does indeed help make the nation and the world a safer place.

In the days and years to come, we will continue in this vital mission, sometimes with public recognition but most of the time far from the limelight. I am honored to work with such dedicated, innovative and truly patriotic people, and I thank each and every one of you.

Wayne Shotts is the associate director of the Nonproliferation, Arms Control and International Security Directorate.



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